

### **REMARKS**

Reconsideration and allowance in view of the foregoing amendments and the following remarks are respectfully requested.

Claims 1-23 are pending in the application, Claim 23 having been newly added herewith. New claim 23 is fully supported by the specification. There is support for new Claim 23 in numerous places throughout the specification. For example, the Examiner's attention is directed to Figure 1 and paragraphs 45-49 for an example of support for new Claim 23.

The Examiner rejected claims 1, 2, 4, 5, 6, 7, 8, 12, 13, 14 and 15 under 35 U.S.C. § 102(b) as being anticipated by Kobayashi et al. (6,600,473). The Examiner rejected Claims 9-11 and 16 under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi et al. Applicant respectfully traverses these rejections for at least the following reasons.

Claim 1 is directed to an electrical bistable device that has first and second interface regions that can be electrically converted between a stable low resistance state and a stable high resistance state. Independent claim 12 is directed to a memory device that has a similar type of structure. Independent claim 5 is a method of making a bistable device such as that of Claim 1.

On the other hand, the Kobayashi et al. reference has nothing to do with an electrical bistable device. Kobayashi et al. discloses a photoconductive switching element (col. 6, l 32), not an electrical bistable device. The photoconductive switching element of Kobayashi et al. has a top charge generation layer 10, a bottom charge generation layer 14 with a charge transfer layer 12 sandwiched between the two charge generation layers 10, 14. Such a structure is formed on a

transparent electrode layer 18, which in turn is on a transparent substrate 19. A second electrode 16 is in contact with the top charge generation layer of 10 (see Figure 1 of Kobayashi et al. and the related discussion and the specification). The charge generation layers 10 and 14 generate charge carriers and electrons when they are exposed to light. Nothing in Kobayashi et al. says anything at all about first interface and second interface structures, as recited in claims 1, 5 and 12. Such first and second interface structures are electrically convertible between a stable low-resistance state and a stable high-resistance state by application of an electrical voltage. There is absolutely no disclosure of any such structure in Kobayashi et al. This is clear since Kobayashi has nothing to do with an electrical bistable device. In particular, Kobayashi et al. is directed to a photoconductive switching element. A current is generated in the device of Kobayashi et al. when it is exposed to light. That has nothing to do with the current application. Since Claims 1 and 12 each recite an electrical bistable device that has such first and second interface structures, and Claim 5 recites forming such structures, applicant respectfully submits that all claims 1 through 16 are patentable over Kobayashi et al. and requests that the rejections under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a) be withdrawn.

The examiner rejected claims 1-22 under 35 U.S.C. § 102(b) as being anticipated by Yang et al. (WO 02/37500). Applicant respectfully submits that the amendments to claims 1, 5, and 12 obviate this rejection for at least the following reasons. The device of Yang et al. (WO 02/37500) is a two-terminal type of device in which current is measured to determine whether the device is in a low resistance state or a high resistance state. Claim 1, 5 and 12 are directed to three-terminal devices rather than a two-terminal device. In particular, a terminal is electrically connected to the electrically conductive mixed layer, as recited in claims 1 and 5. Claim 12 recites the memory input

element and the memory readout element both being electrically connected to the electrically conductive mixed layer. Such a structure allows the terminals to operate as ground, control and read terminals. In some embodiments, one can perform read operations by measuring voltages, for example, rather than measuring currents as in the two-terminal device of Yang et al (see also paragraphs 45 through 50 of the current specification). Such voltage measurements can often be more readily measurable with higher precision than small currents using a two-terminal according to Yang et al. Furthermore, the three-terminal device according to embodiments of the current invention can be decreased in size without it significantly affecting the read operations. Therefore, Applicant respectfully submits that claims 1-22 are patentable over Yang et al. and requests that the rejection under 35 U.S.C. § 102(b) be withdrawn. Furthermore, new claim 23 depends from base claim 12 and is thus patentable for at least the reasons noted above in regard to claim 12.

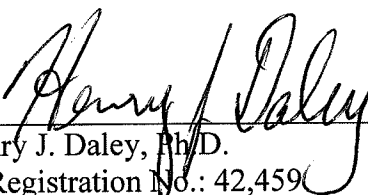
Applicant has addressed all of the examiner's objections and rejections and respectfully submits that the application is in condition for allowance.

Applicant's representative encourages the examiner to contact him at the below-noted number if it may help expedite the prosecution of this application.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Dated:

Respectfully submitted,

By   
Henry J. Daley, Ph.D.  
Registration No.: 42,459  
VENABLE LLP  
P.O. Box 34385  
Washington, DC 20004  
(202) 344-4000  
(202) 344-8300 (Fax)  
Attorney/Agent For Applicant